

**2013
UTAH BOARD OF OIL, GAS AND MINING
EARTH DAY AWARDS**

Nomination Form

Nominee Information

Company Name: Canyon Fuel Company, LLC – Sufco Mine
Address: 597 South SR24
City, State, Zip: Salina, UT 84654
Contact Person: John Byars or Vicky Miller
Phone: John (435)286-4420 or Vicky (435)286-4481
Site Name: Sufco Mine
Location: Convulsion Canyon, East of Salina, Utah

Activity and Category

Activity

- Coal

Category

- Environmental improvement to an active mine site, drilling or recovery site, or field

Nominated By:

Name: Canyon Fuel Company, LLC
Address: See Above
City, State, Zip: See Above
Phone: See Above

Nomination Summary (attach additional sheets, photos, etc., as necessary)

Please see a description of the project(s) and photos attached.

Return no later than January 31, 2013 to: Earth Day Awards, Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801. Salt Lake City, Utah 84114-5801. Phone (801) 538-5324 Fax (801) 359-3940. Nominations may also be submitted by email to - jimspringer@utah.gov.

2013
Utah Board of Oil, Gas and Mining
Earth Day Awards Nomination



CANYON FUEL COMPANY, LLC
SUFCO MINE
January 2013

Wildlife and Livestock Water Enhancement Projects 2009 - 2012

Background

Although, Sufco Mine was not obligated or required by a regulatory agency to assist in these projects, Sufco had realized that hauling water is a short term solution to a long term problem. The mine had been participating in a discussion of ways and locations to provide a consistent, low maintenance; water project that would last long past Sufco's time in the area, thus the enhancement projects were born.

In July of 2009 Sufco Mine was contacted by Bob Tuttle, Range Scientist of the Fishlake National Forest about joining with the Forest Service and the Quitchupah Cattle Company to install a wildlife and livestock watering project on the Mud Springs Grazing Allotment. Sufco agreed to help by donating and covering a portion of the cost for the purchase of pipe, parts and installation of the pipeline. Mine personnel also helped the grazing company in seeking grant money from the Utah Grazing Improvement Program to cover the remaining cost.

In 2010 the Emery County Stock Growers Association approached Sufco to assist in funding 50% of a second wildlife and livestock watering project on the Manti-La Sal National Forest, as with the project on the Fishlake Forest mine personnel assisted in pursuing a grant for improving grazing. Sufco subsidized the project with engineering design, personnel, the purchase of pipe and supplies, along with supplying other equipment.

Few perennial sources of water exist within the grazing allotment boundaries. These are small springs and seeps that only provide limited amounts of water. Catchment ponds had been built through the years to retain precipitation and run-off; unfortunately these ponds provide a variable source of water for wildlife and livestock. To increase the capacity and retention of run-off collected in eleven (11) catchment ponds, Sufco provided equipment and man power to remove accumulated sediment and repair the ponds.

For over 10 years, Sufco has willingly provided and hauled water (360,000 gallons annually) to various troughs and rehabilitated ponds at the request of the Quitchupah Cattle Company and the Emery County Stock Growers Association to subsidize the naturally occurring waters available in the allotment. Sufco has purchased, installed and maintained the majority of the trough locations even though they were outside of Sufco's area of responsibility.



Projects

The Forest Service's contribution to the project was to designate the diversion point on two streams, and then select a route on lands administered by the Forest Service. Since a majority of the route was on areas designated roadless, when possible the pipeline follows an existing fence line or trail. The Forest Service also designed, constructed and installed the diversion boxes for the projects.

Eight sets of troughs were used for the Manti-La Sal project and six sets of troughs on the Fishlake Forest. Once the troughs are filled, the water is shut-off by a float valve. The water distributed in the system uses no pumps and is gravity fed to the troughs from the stream diversion structure. The elevation difference between the stream diversion and the lowest placed troughs is approximately 400' to 800'. The system is designed to deliver water 24 hrs day throughout the summer months. Water modeling of the 2" delivery pipeline by Sufco personal showed that the system will deliver approximately 30,000 gallons in a 24 hour period. The systems will be manually disconnected in the fall and reconnected in the summer each year.

Since the majority of the project construction was located in a roadless area and no motor vehicle access was allowed. Sufco realized that a unique opportunity existed to put the pipeline in using one of the mine's resources. A contracted helicopter that was at the mine to support the summer drilling projects was used to deliver the supplies along the pipeline route. To defray some of the cost both purchased and recycled 2" and 3" HDPE pipe were used to complete the project. Approximately, 48,000 feet of pipe was used for the Manti-La Sal project.

For both projects the pipeline is constructed of 3 inch HDPE pipe and the laterals to the troughs are 2 inch HDPE pipe. The diversion weir was constructed with no cement and secured with natural materials. The task of building the pipeline addressed a wide range of difficulties including isolated terrain, fluctuating temperature and environmental challenges. The terrain was challenging with rocky mountain slopes, with heavy forest, meadows, riparian vegetation and sagebrush ecosystems along the roadless pipeline route.

To assure the pipeline has a long lifetime, the system is constructed with drains spaced along the length of the pipeline in case of a puncture or breach in a fused joint. The drains will also assist when the pipeline is drained in the fall prior to winter. The systems operation will coincide with the grazing schedules for the allotments. The Fishlake pipeline delivery system was turned over to the Quitchupah Cattle Company in 2010 who is responsible for the operation and maintenance of the system. Following the operation of the Manti-La Sal system in 2013 by Sufco personnel, the pipeline will be turned over to the Emery County Stock Growers Association.

Installation and Construction - The pipe was divided into "picks" to be delivered by helicopter to the staging areas. The picks consisted of pipe racks with 500 feet of pipe on them. The racks were used to assist in uncoiling the rolls of pipe as the horses pulled the pipe along the route. A horse is capable of pulling a 250 or 500 foot length depending on the terrain. Horses were ridden in from the closet road each day to pull pipe along the designated route. To place approximately 2 miles of pipe it took 3 operators and 3 horses, 5 days. The helicopter was used to fly a fusion machine from joint to joint to put in connectors, drains, and air vents when the terrain allowed, otherwise a horse was used. The helicopter was also used to deliver the stream diversion box which the Forest Service personnel had provided.

The weir collection system installed in the stream channels was designed and installed by mine personnel.



Weir Design and Construction

All materials and riprap were hauled to the site by either humans or horses. The weir collects a flow of approximately 30 gallons per minute.



Water not transported through the weir into the pipeline will over top the weir and proceed down the stream channel.

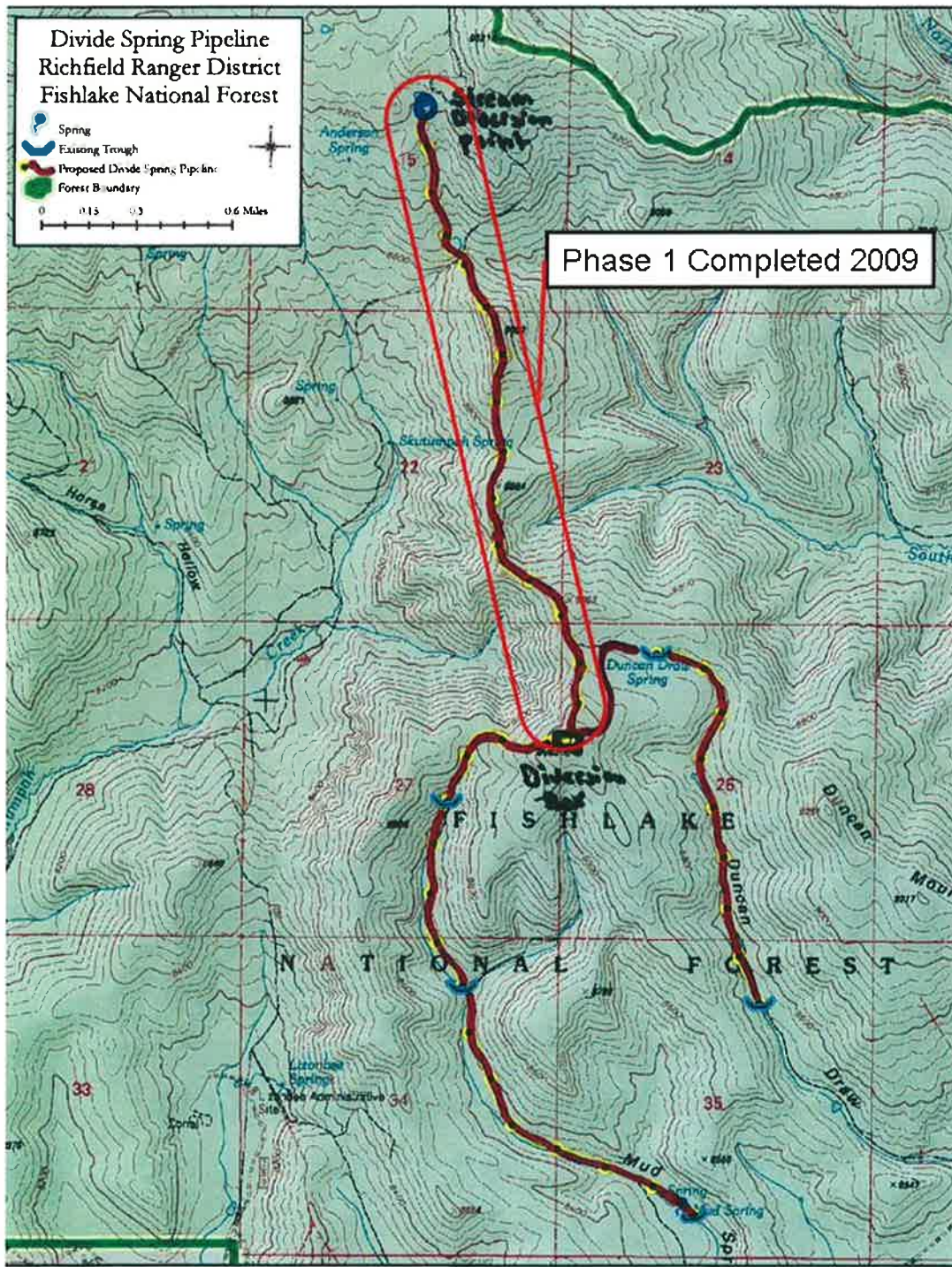


**Draft Horses
Navigated a
Wide Range
Of Terrain**

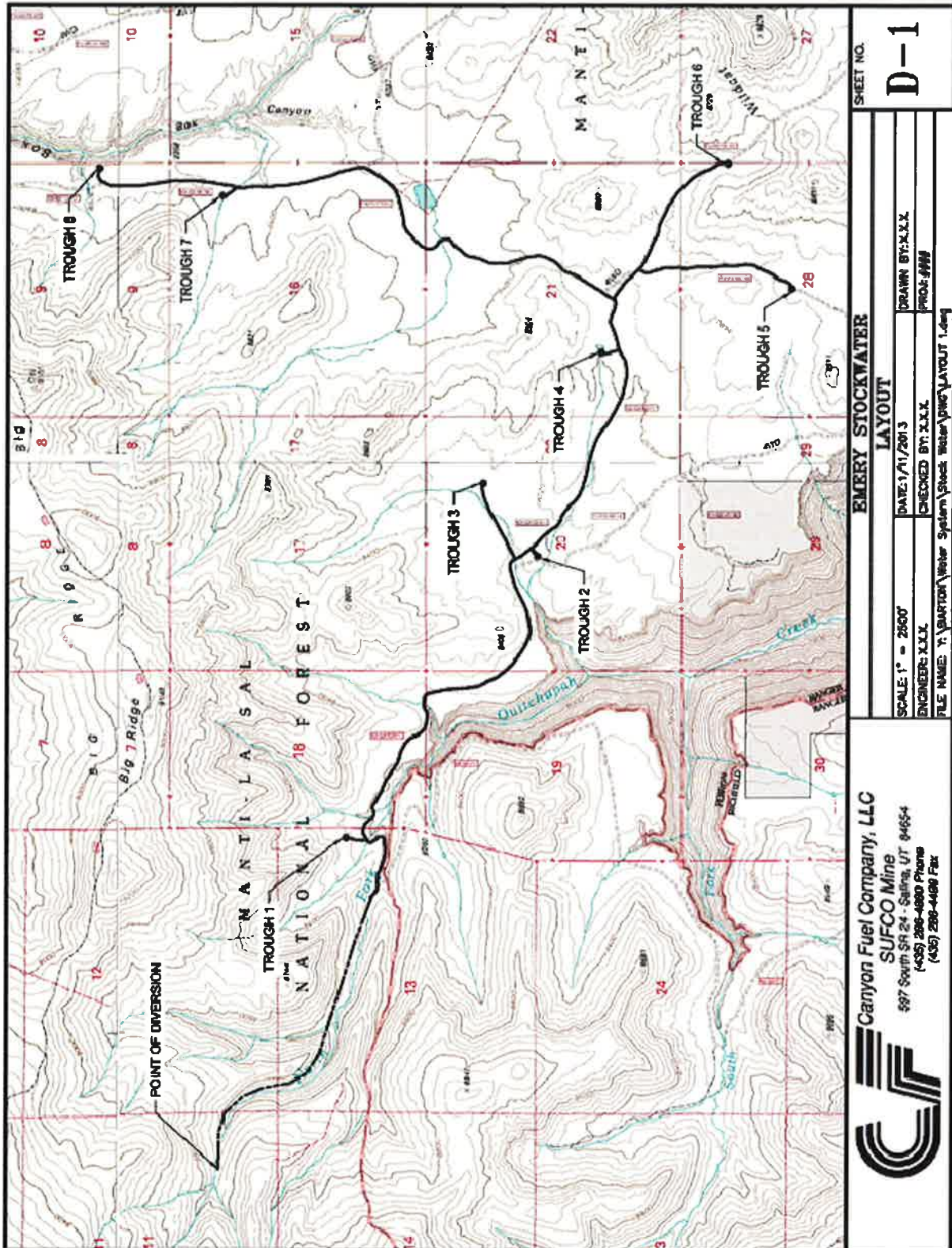


The projects were done to benefit the wildlife and the local livestock grazed on Forest Service allotments. The ultimate value of the projects is that water will be made available in a long-term sustainable water system which will require limited maintenance and human involvement.

Location of Quitchupah Cattle Company and Fishlake Forest Project



Location of Emery County Stock Growers Association and Manti-La Sal Forest Project



SHEET NO.

D-1

EMERY STOCKWATER

LAYOUT

DATE: 1/11/2013

DRAWN BY: X.X.X

CHECKED BY: X.X.X

PROJ: #MM

FILE NAME: Y:\BARTON\Water System\Stock Water\DWG\LAYOUT 1.dwg

Canyon Fuel Company, LLC

SUFCO Mine

597 South SR 24 - Salt Lake, UT 84654

(435) 286-4800 Phone

(435) 286-4488 Fax



**Canyon Fuel
Company, LLC**

A Subsidiary of Arch Western Bituminous Group, LLC

Sufco Mine

Kenneth E. May
General Manager
597 South SR24
Salina, Utah 84654
(435) 286-4400
Fax (435) 286-4499

RECEIVED

JAN 31 2013

DIV. OF OIL, GAS & MINING

January 30, 2013

Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: Sufco Mine's Nomination for Earth Day Award

Dear Sirs:

We are submitting information pertaining to several water pipeline projects funded and completed by Sufco Mine, Canyon Fuel Company, LLC to be considered for an Earth Day Award.

The projects were done on lands administered by the Manti-La Sal and Fishlake National Forests. The pipeline projects were designed to gravity feed water from streams in higher elevations to troughs at lower elevations. The goal of the project being to provide a reliable source of water for the livestock and wildlife in areas where there was limited water previously.

Thank you for considering these projects for the award. If you have questions or need additional information, please contact Vicky Miller at (435) 286-4481 or John Byars at (435) 286-4420.

Sincerely,
CANYON FUEL COMPANY
SUFCO Mine

Vicky Miller
Environmental Engineer

Enclosures